

Glossary of Terms

NAP — Network Access Point.

National Electrical Code (NEC) — A publication of the National Fire Protection Association (NFPA) which outlines requirements for electrical wiring and building construction.

NBR — Butadiene-acrylonitrile copolymer rubber, a material with good oil and chemical resistance.

NEC — National Electrical Code.

NEMA — National Electrical Manufacturers Association.

Neoprene — A synthetic rubber with good resistance to oil, chemical, and flame. Also called polychloroprene.

Network — A method of data communications between computers.

NEXT — Near-end Crosstalk. Crosstalk induced on the pairs, measured at the end near the transmitter. Usually expressed in decibels (dB).

NFPA — National Fire Protection Association.

Nibble — One half byte (4 bits).

NOC — Network Operations Center.

Noise — In a cable or circuit, any extraneous signal which tends to interfere with the signal normally present in or passing through the system.

NOMEX® — DuPont trademark for a temperature-resistant, flame-retardant nylon.

Non-Paired Cable — Cable with two or more cabled conductors that are not in a paired configuration.

Non-Plenum — A description for a cable that does not meet the requirements of NFPA 262 (UL 910) CMP flame test. Such a cable cannot be installed in an area that is used for air return (plenum).

Notch — The removal of the web section between conductors of a flat cable to aid in stripping, slitting and termination.

NTSC — National Television System Committee. Organization that formulated standards for the current U.S. color television system. This system is used in most countries of the Americas and in other parts of the world. It was designed to be compatible with the existing monochrome TV sets, so that they would not become obsolete. Color televisions would also be able to receive monochrome transmissions. NTSC uses a 3.579545 MHz subcarrier whose phase varies with the instantaneous hue of the televised color and whose amplitude varies with the instantaneous saturation of the color. NTSC employs 525 lines per frame, 29.97 frames per second and 59.94 fields per second.

Numerical Aperture (NA) — A measure of the angular acceptance for a fiber. It is approximately the sine of the half-angle of the acceptance cone.

Nylon — An abrasion-resistant thermoplastic with good chemical resistance.

OFDM — Orthogonal Frequency Division Multiplexing.

OFHC — Abbreviation for oxygen-free, high conductivity copper. It has 99.95% minimum copper content and an average annealed conductivity of 101% compared to standard copper.

Ohm — The unit of electrical resistance. The value of resistance through which a potential difference of one volt will maintain a current of one ampere.

Ohm's Law — Stated $E=IR$, $I=E/R$ or $R=E/I$. The current I in a circuit is directly proportional to the voltage E , and inversely proportional to the resistance R .

Optical Waveguide Fiber — A transparent filament of high refractive index core and low refractive index cladding that transmits light.

OSI — Open System Interconnect (Model for networking protocols).

OSS — Operations Support Systems.

Output — The useful power or signal delivered by a circuit or device.

Ozone — Extremely reactive form of oxygen, normally occurring around electrical discharges and present in the atmosphere in small but active quantities. In sufficient concentrations it can break down certain rubber insulations under tension (such as a bent cable).

Paired Cable — Cable with conductors cabled in groups of two.

PAL — Phase Alternation Line. PAL is a European color TV system featuring 625 lines per frame, 25 frames and 50 fields per second. Used mainly in Europe, China, Malaysia, Australia, New Zealand, the Middle East, and parts of Africa. PAL-M is a Brazilian color TV system with 525 lines per frame, 30 frames and 60 fields per second.

Parallel Circuit — A circuit in which the identical voltage is presented to all components, with current dividing among the components according to the resistances or the impedances of the components.

Parallel Digital — Digital information that is transmitted in parallel form. The digits are sent on separate conductors rather than sequentially on one transmission line (serial). Often used informally to refer to parallel digital television signals.

PASP — Polyethylene Aluminum Steel Polyethylene. Provides additional lightning and gopher protection.

Patchcord — A flexible piece of cable terminated at both ends with plugs. Used for interconnecting circuits on a patchboard, in a wiring closet or at the work area.

PC — Personal Computer.

PE — Polyethylene.

Peak — The maximum instantaneous value of a varying current or voltage.

Peel Strength — The force necessary to separate two adjacent conductors of a bonded or laminated flat cable.

Periodicity — The uniformly spaced cable impedance variations that result in addition of the reflections of a signal. The distance between them is the half wavelength of the most affected frequency. Multiples of that frequency are also affected. Even very slight variations, which appear over and over in a construction or installation, can have major effects on signal integrity because of periodicity.

Permanent Link — The horizontal cable including the workstation outlet and patch panel in the telecommunications closet plus two meters of cable at each end for testing. Limited to a maximum of 90 meters in TIA/EIA-568B.1.

PFA — Perfluoroalkoxy.

Phase — An angular relationship between waves.

Phase Shift — A change in the phase relationship between two alternating quantities.

Photodetector (Receiver) — Converts light energy to electrical energy. The silicon photo diode is most commonly used for relatively fast speeds and good sensitivity in the .75 micron to .95 micron wavelength region. Avalanche photodiodes (APD) combine the detection of optical signals with internal amplification of photo-current. Internal gain is realized through avalanche multiplication of carriers in the junction region. The advantage in using an APD is its higher signal-to-noise ratio, especially at high bit rates.

PHY — Physical (layer of OSI Reference Model). (See also *Physical Layer*.)

Physical Layer — The actual portion of a network that is used to physically connect computers of a network and over which the data is transmitted — the cable.

PIC — Plastic Insulated Conductor. Provides strong insulation.

Pickup — Any device which is capable of transforming a measurable quantity of intelligence (such as sound) into relative electrical signals (e.g. a microphone).

Pico — One-trillionth.

Picofarad — One trillionth of a farad. A micromicrofarad. Abbreviated pF in modern usage or mmF in earlier usage.

Pin-diode — A photodetector used to convert optical signals to electrical signals in a receiver. (See also *Photodetector*.)

Pitch — Nominal distance from center-to-center of adjacent conductors within a cable. When conductors are flat, pitch is usually measured from the reference edge of a conductor to the reference edge of the adjacent conductor. Spacing.

Planar Cable — Also referred to as flat and/or ribbon cable. Any cable with two or more parallel conductors in the same plane encapsulated by insulating material.

Plastic — High polymeric substances, including both natural and synthetic products that are capable of flowing under heat and pressure, called thermoplastics. Unlike rubber and other thermoset compounds, plastics can be remelted and reused.

Plasticizer — A chemical added to plastics to make them softer and more flexible.

Plenum — A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system. A description for a cable that passes the NFPA 262 (UL-910) CMP flame test requirements.

Plug — A male housing with male or female contacts.